ESDSWG Recommendations

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The DOI WG, as a subset of the ESDSWG, was tasked with coming up with recommendations for DOI suffixes, how DOIs should be assigned and registered, and landing page structure. In June 2014 these recommendations were presented to ESDIS management and decisions were made based on each.

ESDIS Response to ESDSWG DOI Recommendations.docx

Recommendation 1: DOIs suffixes should be opaque strings.

Using opaque strings aligns with the direction of the larger DOI community. Opaque DOIs also eliminate the manual effort involved in selecting a structure and increase the ability to automate the assignment process. Existing DOIs should not be updated to reflect the opaque suffix recommendation, nor should a second DOI be registered for a data set.

ESDIS Decision

ESDIS DOI Suffix models will include alphanumeric (opaque) strings in addition to structured strings. If DOI names are not specified by the data provider, opaque DOI names will be assigned.

Rationale

Given that the use of opaque DOIs aligns with the direction of the larger DOI community, the assigning of an opaque string to the DOI suffix will be the default DOI naming convention. If a data provider does not specify the DOI name, ESDIS will automatically assign a DOI name containing an opaque suffix. ESDIS agrees that opaque DOIs eliminate the manual effort involved in selecting a structure and increase the ability to automate the assignment process. However, the use of structured DOIs will continue in order to accommodate data providers who choose to use the structured naming convention and to support already existing DOIs with structured names.

Recommendation 2: DOIs should be generated by the registry (e.g., EZID, easy-eye-dee).

The risk of duplicated DOIs is eliminated if they are automatically generated by the registry instead of being assigned specific values.

ESDIS Decision

ESDIS will generate all opaque DOIs with appropriate input from the data providers.

Rationale

DOIs generated using EZID are permanently registered and immediately visible to the public. Consequently, data providers using EZID would not be able to pre-assign DOI names for the data products that are not ready for public distribution. Given that the ability to pre-assign DOIs is highly desirable, ESDIS has developed a service that creates unique DOI names and keeps those names in "Reserve". Such DOIs are kept in this state until all the required elements needed for EZID registration are collected and the data products are publicly distributed. The reserved identifiers can be renamed or deleted before being registered. ESDIS also has the capabilities of auto-generating opaque IDs and automatically verifying the uniqueness of DOI names thus eliminating the risk of duplicate identifiers.

Recommendation 3: DOIs can be registered using a data center's EZID account or the ESDIS EZID account.

This decentralized approach prevents ESDIS from being a bottleneck in the assignment process. It also allows for greater automation, as data centers can develop DOI registration services using EZID's Application Programming Interface (API) and integrate them into their metadata management systems.

ESDIS Decision

All DOIs for Earth Observing System Data and Information System (EOSDIS) products should be registered using the ESDIS account assigned by EZID unless prior arrangements have already been made.

Rationale

Our goal is to maintain an archive of all DOIs across EOSDIS in our own database to extract citation metrics on data products by DAAC. To achieve this goal, ESDIS would like to collect DOI information from all of the data providers. It is easier and more efficient to collect information before it is registered to ensure timely completeness of the data with ESDIS. To do so, ESDIS has developed fully automated processes for assigning, reserving, registering, and updating the DOIs with EZID. This facilitates faster turn-around time thereby eliminating any bottleneck. Having data providers' use their own EZID accounts could result in multiple DOIs pointing to the same product and inconsistency in the metadata submitted to EZID. ESDIS review of the DOI metadata minimizes data inconsistencies and ensures registration of valid identifiers only. To accommodate centers that want to automate using APIs, sub-accounts could be assigned with an agreement to comply with EZID procedures and ESDIS DOI maintenance guidelines, such as providing ESDIS information for any DOIs being registered or updated.

Recommendation 4: DOIs should have a corresponding data set landing page.

A landing page URL should be registered in the EZID DOI metadata. Landing pages should follow the "Recommended Practices for NASA EOS Dataset Landing Pages".

ESDIS Decision

All ESDIS DOIs must have an accompanying product landing page URL before being registered with EZID. ESDIS can reserve the DOI while the landing page is being developed.

Rationale

Most datasets already have landing pages of some form so these should be used as-is with a plan for becoming more compliant with ESDSWG recommendations for DOI Landing pages.

Recommendation 5: DOIs should be exported to the Global Change Master Directory (GCMD) in the Directory Interchange Format (DIF).

The DIF citation field includes an element for capturing DOI values. Capturing DOIs in GCMD data set DIF records provides a centralized repository for ESDIS to identify and track DOIs and related metadata. A missing DOI value in a DIF record sent to the GCMD should initiate a warning (not an error) to alert the data center of the missing value.

ESDIS Decision

ESDIS agrees and expects this capability to be incorporated in the Common Metadata Repository (CMR) Development activities.

Rationale

GCMD has already revised the DIF in order to accommodate the DOI information. It is envisioned to have similar capability in the CMR with functionality to alert data providers of missing DOI information as the data product metadata is ingested into the CMR.

The full documents can be downloaded here.